

Exploring the contribution of universities to labour market requirements in South Africa: An employer's perspective

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Abstract

Organisations function in a flexible and changing environment that requires dynamic responses to diverse forces influencing their sustainability and growth. Employers wish to recruit graduates who can capably and successfully transfer their university-acquired skills and knowledge to the workplace. The aim of this qualitative study is to explore the contribution of universities to labour market requirements in South Africa from an employer's perspective. Signalling theory assists as the theoretical framework to establish: (1) whether the skills and knowledge required by labour markets are reflected in the advertised degree programmes of universities; and (2) whether skills and knowledge shortcomings could have been addressed sufficiently by universities.

Keywords

Labour market requirements, signalling theory, teaching and learning practices, university contribution

There is a longstanding dissatisfaction amongst some employers in many countries with the quality of the skills and knowledge of their recently employed graduates (Hansen, 2017). In 2017 the National Association of Colleges and Employers (NACE), a US-based non-profit professional institution, surveyed 400 employers internationally and found that only 3 out of 10 confirmed that graduates were proficient in the workplace application of the skills and knowledge they had acquired academically. The NACE survey results are consistent with the ongoing concerns expressed by various South African stakeholders in newspaper articles sourced by the researcher from 2012 to 2015 concerning the failure of universities to produce workplace-ready graduates. As stakeholders in skills and knowledge production, employers complain about shortcomings in the quality of the skills and knowledge possessed by graduates in comparison to labour market demands (Botes and Sharma, 2017). Employers are also worried about the scope and relevance of graduate skills and knowledge in relation to labour market needs (Kalufya and Mwakajinga, 2018).

This alleged failure of universities to produce suitable graduates for the labour market raises concerns about the learning outcomes and learning standards signalled by degree programmes offered by South Africa's universities. In the context of this study, the word 'signal' refers to the

information about the degree programme, learning outcomes and standards marketed by the university to students wishing to enrol in different disciplines.

Against the background of the employers' concerns, these signals from universities are analysed using the signalling theory developed by Michael Spence in 1973. Signalling theory provides a useful framework for understanding that the recruitment of graduates by employers is influenced by the signals received from universities about the qualifications they award to graduates. Employers trust the signalled information in forming their expectations of what graduates will know and be able to do when they are recruited. It is therefore important to establish whether the contribution of universities to labour market requirements in South Africa is sufficient in preparing graduates for the work they are eventually employed to undertake (Botes and Sharma, 2017; Hansen, 2017).

Universities are responsible for the learning outcomes of, standards achieved by and qualifications awarded to graduates. Ideally, universities are expected to produce

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graduates who are proficient in contributing meaningfully to workplace and labour market requirements in different sectors of the economy, but this has not been the case in many countries. Based on the expectation that university graduates are ready for work, employers recruit them to add value to their operations. In this regard, hiring graduates is considered an investment by the employer (Spence, 1973), but experiences around the world have shown that hiring graduates has become an expense for most employers. Thus, a major concern amongst employers is that universities are not producing graduates who are competent in performing the assigned tasks at the workplace. A graduate's inability to meet expected performance requirements hinders the organisation's capacity to be effective and responsive in highly competitive local and international business environments (Hansen, 2017). In light of the employers' concerns, therefore, this study explores the contribution of universities to labour market requirements from an employer's perspective in South Africa.

Theoretical overview

Signalling theory (Spence, 1973) suggests that an employer cannot observe the skills and knowledge of an employee prior to employment but that hiring an employee is still an investment decision. The theory has been adopted in many fields – amongst others, economics and marketing – and in this study it is used to explore the signals sent by universities about their degree programmes to prospective students and employers. In the context of education discourses, it has been argued that such signalling informs the employer that having a degree raises wages simply because the education level is a signal of the employee's ability, even though this ability is unobserved by the employer prior to the employment decision (Tambi, 2018). Gabbert (2015) suggests that degrees serve as a signal to managers that graduates are valuable and that hiring graduates increases productivity and makes the company look good. Employers, then, rely on the messages or signals received about degree programmes or qualifications from universities when recruiting graduates and trust the reliability of this information in their expectations of what graduates will do when they are employed (Vedder et al., 2013).

The National Qualifications Framework (NQF), together with the South African Qualifications Authority (SAQA) database, provide qualifications outcomes and the learning standards of registered qualifications linked to institutions at various levels of education, among which are universities. Employers can access the learning outcomes and standards of registered qualifications on the SAQA website or on the websites of universities when they need information about what graduates should be able to do and what they should know when they have completed their degree programme. According to the graduate participants

in this study, prospective graduates intending to be admitted to a study programme will most often access the website of a university to obtain information about degree programmes.

Signalling theory is useful for describing the behaviour between two parties when one party as the *sender* (here the university) communicates the information it is selling to a *receiver* (the prospective student or employer) (Connelly et al., 2011). The employer as receiver reviews the learning outcomes of the university qualification a graduate achieved to inform its recruitment and selection processes. The prospective graduate as receiver uses the advertised degree programme as a guide when selecting a study programme. Given these circumstances, the receiver of the information should be able to trust that it will provide the value it promises. In other words, prospective graduate employees send a signal about their skills and knowledge to an employer when they acquire a degree qualification (Connelly et al., 2011). Signalling theory posits that the purpose of most human behaviour is to signal value and status to others (Gabbert, 2015); therefore, employers recruit on the basis of the information signalled by universities through the qualifications they award about the learning outcomes graduates have achieved. The signals sent by universities, however, seem to have become distorted, given the continuing contentions that many graduates are not adequately prepared for the labour market.

By applying signalling theory, this study aims to establish the impact of that alleged inadequate preparation on graduates themselves and on employers of graduates. The role of universities based on the content of their degree programmes as advertised on their websites is analysed in the context of employers' concerns about graduates' skills and knowledge and their relevance to workplace requirements.

Degree programme information signalled by universities

Previous studies, including those by Brown (2013) and Bowley (2018), focus on scarce and other important skills at various levels of demand by employers. Brown (2013) argues that the skills in demand are: communication, teamwork, problem-solving, initiative and enterprise, planning and organising, self-management and technology. Bowley (2018) notes that a survey of 2000 business leaders indicated that 'soft skills' were in higher demand and adds the following skills among those required by employers: leadership, strategy, management, collaboration and time management.

An exploration of the degree programmes described on the websites of seven randomly selected universities (private and public institutions) in South Africa revealed that the skills listed by Brown and Bowley are covered by the programmes. Universities, however, differ in the ways they

present or signal degree programme content. Considering that this description will be the first point of access to information for a prospective student applying for admission to a programme, one could argue that the information should not be deficient in detail concerning expected outcomes and/or the levels of outcomes to be achieved. The programme descriptions on the websites of the randomly selected universities provided the following *common threads* of information:

- *Programme*: the department offering the degree programme and a list of the modules.
- *Duration*: full-time and part-time study options in years.
- *Admission requirements*: prerequisite knowledge at a particular NQF level with an average of 60% achieved; matric with Bachelors degree access; and, in some cases, particular courses or modules must have been completed to qualify for admission.
- *Career opportunities*: among others, in finance, working in banks, insurance companies, investment companies, education, industry, journalism, fitness instructor, coach, project manager, business manager.

Of the websites viewed, only two provided a breakdown of the outcomes of the modules offered in the degree programmes from year one to the final year of study. The information extracted for this study focused on the main outcomes and content provided on degree programmes in order to ascertain what the graduate would know and what the employer could expect of the graduate on employment. These two universities provided the following additional information linked to the content that would be taught:

- *Main Outcomes*: (1) Students should be able to calculate, understand, graphically solve, interpret, analyse, or (2) students should demonstrate ability to...; raised awareness of...; the capacity to...
- *Main content*: application of tools; introduction to...; graphically solve; measures of...

The lists are not exhaustive, but for the purposes of this study only the similarities in the information provided were extracted. The word 'understand' appears quite often under the main outcomes section of the descriptions of final-year modules. To 'understand' does not equate to being able to 'apply' or 'do', as would be expected from the terms 'solve' and 'analyse' that appear less frequently in module outcomes and content sections. A prospective student may not fully comprehend what the degree programme outcomes translate to for the labour market at the time of application for admission to a degree programme. An employer may misunderstand or misinterpret the outcomes when the description does not specifically state that a graduate 'will be able to' but rather 'should be able to'.

Prospective students may look at the career opportunities listed in advertised degree programmes to influence their choice of study. Ultimately, applying the signalling theory perspective of human behaviour, graduates may want to signal their value and status to employers because they have a university qualification (Gabbert, 2015) that is deemed to belong to the highest level of education bands on the NQF.

The aim of the above analysis was not to compare universities, but rather to trace the process a prospective student would be likely to follow when selecting a degree programme, and therefore the names of the universities are not mentioned. The degree programme content analysis, it should be noted, excludes the possibility that the popularity or reputation of a particular university will also inform a prospective student's selection.

Employers' concerns with the qualifications offered by universities

The continuing stakeholder debates about the poor quality of university qualifications suggests a lack of problem-solving mechanisms to address employer concerns and labour market requirements (Franco et al., 2019; Kalufya and Mwakajinga, 2018). Yang and McCall (2014) cite Connelly et al. (1973) in arguing that educational investment by an individual in higher education is interpreted as a signal to employers about the future productivity of a job applicant through completion of rigorous university degree programmes. Globally, however, employers are questioning why graduates hold what seem to be appropriate qualifications but, once in the workplace, are found to be unable to do what the employer was led to believe they would be able to do (Franco et al., 2019; Hansen, 2017).

In most cases, the recruitment of graduates is based on the information signalled by universities about the outcomes the graduate of a degree programme will have achieved during their studies (Hansen, 2017; Kalufya and Mwakajinga, 2018; Master, 2014). The career opportunities connected with the qualification from a particular programme as signalled on university websites and/or in other media, such as newspaper advertisements, may also influence an employer's perception of the skills and knowledge a graduate should have on employment if that qualification is relevant to a job vacancy (Kalufya and Mwakajinga, 2018).

Gernetzky (2011) refers to the statement by the then Deputy Performance and Evaluation Minister in South Africa that graduates had to be retrained when they began working. Apart from the retraining commitment required of employers, the Minister's comment is also concerning for graduates, who have already invested time and money in studying. Andrews (2013), a former Dean of Wits Business School, reports on his discussion with business leaders in which they raised the concern that many Master of

Business Administration (MBA) graduates were able only to regurgitate outdated theories and applied theoretical formulas to problems. In the same context, Vollgraaff (2015) draws on comments of a senior partner of PricewaterhouseCoopers (PwC) Southern Africa, relaying his concerns about the difficulties experienced by the organisation in finding and keeping the right people due to a lack of talent, linked to the capabilities of employed graduates, which was stifling its ability to expand. Vollgraaff (2015) further reports that 48% of Chief Executive Officers (CEOs) in Africa alleged that it had become more difficult to hire workers, and 54% said talent expenses had affected their companies' growth and profitability negatively in the past 12 months.

Master (2014) argues that businesses are faced with the challenge that the quality of education necessary for skills to be transmitted in the workplace, acquired and retained is increasingly lacking. Employers not only employ graduates; they also send their existing employees to complete qualifications they previously have not had an opportunity to acquire. Government and professional bodies' policies and practices prescribe to employers the qualification requirements for particular jobs, thereby impacting the recruitment and selection processes of organisations. In light of Master's (2014) argument for employees to be educated, and that the education system is not relevant to employers' needs, what options do graduates have if their university education does not adequately prepare them to meet job requirements? Master (2014) further argues that employees, in the absence of adequate education, will remain trapped in the realm of functional work and productivity will suffer because those employees will be able only to exercise their skills to the limits of their working knowledge and their imagination. Thus their ability to be self-directed and innovative is adversely affected – an ability that is increasing in importance with the emergence of the Fourth Industrial Revolution, in which organisations and economies must compete in an environment of disruptive technologies that will change how we live and work (Schwab, 2015). Employees who are sent to university to study will be disadvantaged if study programmes are not improved to match more closely the needs of the workforce.

It is evident from the literature, media reports and debates sourced for this study that the graduate skills and knowledge challenges for employers persist despite the voicing of stakeholder concerns. Statistics quoted by Vollgraaff (2015) and the National Association of Colleges and Employers (NACE, 2017) further strengthen concerns about the quality of degree programmes and the inability of graduates with the resulting qualifications to contribute meaningfully to the labour market. In light of the increasing global competitiveness and flexibility of economies, employers' concerns across many industries should be a

matter of importance to all responsible parties in South Africa.

Research design and implementation

A qualitative approach was used to investigate the extent to which degree programmes offered by universities in South Africa reflect the skills and knowledge requirements of employers. This approach to social inquiry helps in analysing the extent to which universities can sufficiently prepare graduates for the labour market. As already noted, an analysis and review of the literature, including a qualitative content analysis of the degree programme information on the websites of seven South African universities, as well as the opinions of various stakeholders expressed in newspaper articles, informed the initial data collection process. The qualitative methods used for data collection included interviews and focus group sessions in a process of naturalistic inquiry. Naturalistic inquiry helps towards an in-depth understanding of a phenomenon within its natural setting (Bowen, 2008); therefore all participants were from business units that impacted each other operationally. All were employees in the same organisation at different levels of the hierarchical structure. The selected employer is classified as a large institution situated in one province with 70 business units (such as engineering, safety and security), as well as support services spread across various districts. Naturalistic inquiry allows for the use of various techniques, including online open-ended questionnaires, focus group sessions and one-on-one interviews, applying structured and unstructured processes (Bowen, 2008). All data were collected and recorded in English. The qualitative methodology enabled discernment and description of the employer's experiences with employed graduates, resulting in the employer's perception of the contribution of universities to the labour market (Flick, 2013).

It is important to note that graduate feedback is not reported in this article. The data collected from employed graduates as outlined below, however, informed the data collection process with the management participants. Graduates had qualifications from different universities and had studied in different disciplines – among others, accounting, engineering, sports science, commerce and political studies.

Online open-ended questionnaire with employer's graduates

A non-probability convenience sampling method (Saunders and Lewis, 2012) was used to access the graduates hired by the employer via an online Google questionnaire link sent to the organisation's human resources officer, who then forwarded the link to the graduates' email addresses. Non-probability convenience sampling allows for the selection of participants in a process that does not give all

individuals in a population an equal chance of selection (Saunders et al, 2012). Convenience sampling proceeded until the required number of participants was reached (Saunders et al., 2012). A total of 35 graduates, employed in different business units within the organisation, received the link. The convenience sampling technique applied facilitated speedy delivery of the questionnaire to participants; cost-effectiveness in collecting data; and availability of the participant sample (Crossman, 2017).

The Google Forms application was used to design the questionnaire, which consisted of three sections: (1) biographical information (9 closed-ended questions); (2) university and qualification selection (a combination of 15 open-ended and closed-ended questions); and (3) skills and knowledge (a combination of 27 open-ended and closed-ended questions). The link was made available online for the month of June 2018 to allow participants sufficient time to complete the questionnaire. Of the 35 graduates who received it, 33 responded. Only 30 returned questionnaires were used for this study because the remaining 3 were not completed in full. Employed graduates from nine different business divisions of the employer completed the questionnaire.

Ethical considerations. The open-ended questionnaire was cleared by the University of the Western Cape and was endorsed by Ethical Clearance Procedure No. HS17/8/34. Participants were informed that their participation was voluntary. The criteria for participation in the study were specified in the questionnaire and participant confidentiality was assured by electronic settings that automated responses directly to the researcher on its completion, and not to the human resources officer who had forwarded the questionnaire to participants. The analysis of the data collected from the employed graduates informed the selection of participants for the management focus group sessions.

Focus group 1 – Employed graduates

Purposive sampling, as a non-probability method, was used to select 10 of the 30 online participants for one focus group interview session. The inclusion criterion was that participants selected for the group should be representative of the nine business units from which online responses were received. (Graduates from other business units were excluded because they did not respond within the period for which the Google open-ended online questionnaire was available.) The main reason for this focus group interview session was to clarify the online responses of the completed questionnaires in a real setting to increase the validity and reliability of the analysed data.

Confirmation of completion of the online open-ended questionnaire had to be signed by each participant in the focus group session. This was communicated to participants beforehand and the confirmations were signed at the

session. Electronic verification was carried out by accessing the Google responses. The focus group process involved electronic and written flipchart recording of participants' responses. The data collected from the employed graduates informed the themes and questions of the interview schedule and discussion for the focus groups with the management teams.

Focus group 2 – Management teams

Six focus group sessions, categorised as Focus Group 2, were held with management teams representing the business units in which the participant graduates were employed – among others, engineering, water affairs, safety and security, finance, human resources, information and technology. Purposive sampling was applied in the selection of the participants with the assistance of the human resources consultant based on the managers to whom the graduates reported. The focus group sessions were held at three different venues to facilitate the availability and travel of the managers. In all, 24 managers participated, with 4 at each session. There are different opinions about the minimum number of participants required for a focus group session and, therefore, the number of participants is best determined by the purpose of the focus group (Bigby, 2018). In this case, the purpose was that managers should share experiences, opinions and perspectives about the graduates employed in their respective and cross-functioning departments. The small groups allowed for an easier flow of collective conversation (Kamberelis and Dimitriadis, 2011), encouraging honesty and valid feedback which contributed ideas and views to help resolve the employer's concerns with the research problem.

An interview schedule consisting of guiding questions related to the themes developed from the analysed graduate data informed the semi-structured focus group sessions with the management teams. The primary aim was to reflect on common perspectives of the data collected from employed graduates and the experiences of managers with these graduates in the workplace.

The sessions encouraged a range of responses that provided a broader appreciation of the attitudes, behaviour, opinions and perceptions of the participants concerning the research issues (Hennink, 2007). It was important to appreciate how managers saw their own reality and hence to obtain richer data. The sessions provided the researcher with an opportunity to explore the gap between what managers say and what they do or how they respond in workplace settings to the alleged lack of skills and knowledge of employed graduates. Permission to record the sessions electronically was granted in advance and, in addition, managers were asked to write their responses on a flipchart during the session. The researcher also made written notes of comments when probing for clarification of points made. No challenges were experienced in getting consent for

participation and confidentiality from participants. Consent forms were signed before the focus groups started.

One-on-one interviews – Division heads

Purposive sampling was used to select the 3 divisional heads for the one-on-one interviews. The human resources officer was requested to select heads to whom managers participating in the focus group sessions reported. Data collected from the focus groups with the graduates and managers informed the questions scheduled for the semi-structured interviews with the divisional heads. In addition, further discussion with these participants gave them an opportunity to provide their own views and contribute to an understanding of the internal influences on the research issues from a higher level of the organisation.

Qualitative interview formats allow for discussion and open-ended questioning of participants. I simplified the thematic questions to ensure that they were clearly understood by all the participants, but participants were also encouraged to seek clarity in the case of misunderstood questions (Ary et al., 2010). The divisional heads operate at a strategic level of the organisation and provided comparative feedback on the respective business units reporting to them. They were probed about collaboration with universities and the extent to which this was encouraged in order to ensure that degree programmes were responsive to the needs of the labour market. Consent forms were signed and the same processes of note-taking, written flip chart responses and electronic recording were used to gather data.

Data analysis

Analysis of the respective categories of qualitative data collected varied slightly. The online open-ended questionnaire responses were automatically recorded in an Excel spreadsheet that was linked to the online questionnaire and analysed using qualitative content analysis. Responses by the employed graduates were categorised according to the questions in the questionnaire from which the aforementioned three themes were developed (the themes are specified below under 'Results and discussion'). Graduate focus group responses were merged with online group responses. The analysis focused on the comments and variations in the responses of participants that were linked to the themes developed. Participants' comments were provided as extensively as possible and a short explanation was given to describe them. Mayring's (2014) steps for qualitative content analysis were useful in bringing out the essence and meaning of the data collected. Important passages could be coded in multiple ways, helping with the credibility of the findings by constantly aligning the process of coding with

the research question and the literature reviewed. The steps were applied as follows:

- *coding*, which involved working through the material with the aid of a theme system;
- *examining* the common occurrences of themes, and establishing the contingencies, requirements and constraints mentioned by participants; and
- *collating and interpreting* the graduates' comments under the three main themes and listed subthemes.

The electronically recorded data, the flipchart data and the researcher's notes from the management team focus group sessions were captured in an Excel spreadsheet. The same themes developed from the online questionnaire responses guided analysis of the data collected from the focus group sessions and the face-to-face interviews. The reflections and experiences of the managers were juxtaposed against the reflections of graduates where this was applicable.

One-on-one interview recordings and written responses were captured in an Excel spreadsheet and Mayring's (2014) coding system with the same themes as previously developed were applied. The main themes applied in the same qualitative process assisted with the reduction of subjectivity in interpreting the findings. The four criteria of credibility, transferability, dependability and conformability for judging trustworthiness within a naturalistic inquiry setting, as suggested by Guba and Lincoln (1994), were established through the progressive and integrated processes of data collection linked to the same themes. Contextualising and linking the data collected from one participant group to inform and guide the data collected from the next group with the same coding system until saturation was achieved confirmed achievement of the four criteria (Guba and Lincoln, 1994). Guba and Lincoln's (1994) four criteria were fulfilled in terms of: certainty in the truth of the findings; the applicability of findings in different business units; the consistency and reproducibility of the findings; and the degree of researcher impartiality achieved by allowing participants the comfort of a conducive and safe environment in which to interact without the researcher's influence.

Finally, randomly selected degree programmes specific to the qualifications held by the participating employed graduates were sourced from the websites of seven universities. These programmes, as advertised, were analysed to compare their content and learning outcomes with the data collected about degree programmes from the respective participant groups. The focus of the comparison was on the programmes' content and outcomes in relation to labour market needs and on *how* the required skills and knowledge were achieved during the study years. Thus the comparative analysis concentrated on the signals (Spence, 1973)

employers receive about qualifications and their interpretation of the acquired skills and knowledge of graduates on employment.

Results and discussion

The research findings are contextualised by the interpretations of the management teams of the university qualifications held by employed graduates as signalled by universities and the NQF. The thematic framework in which the key findings are presented is influenced by Mayring's (2014) coding system. The three main themes developed from the data analysis were: (1) degree programme content versus labour market needs; (2) skills and knowledge production by universities; and (3) how universities can improve skills and knowledge production.

Degree programme content versus labour market needs

The findings concerning degree programme content are based on the degrees held by the employed graduates. The influence of stakeholders such as professional bodies on degree programme content is considered in the presentation of the findings (Master, 2014), especially in the fields of accounting and engineering. Management participants thought that relevant content and different modes of teaching should be applied to graduate development in classroom settings, noting that studies influenced by professional bodies should encourage continuous professional development and certification beyond university degrees for quality assurance and up-to-date knowledge.

Managers had different views on degree programme content because of the influence of professional bodies and others on accounting and engineering degree programmes compared to more flexible programmes (the regulatory requirements of those two fields prescribe what learning content universities should incorporate). Points made by the participants included:

- Workplace accounting utilises software applications; hence there is a need to prepare graduates with these updated skills.
- There is a need to apply, or at least to create awareness of, innovative and relevant digital and software application ability in accounting and engineering as well as other contexts.
- Awareness should be created in graduates of the need for continuous professional development (ongoing professional certification in the field of, amongst others, engineering). A university degree does not complete their development and professional requirements for the labour market.

The more flexible degree programmes, such as commerce, sports science, information technology, education, finance and human resources, afford universities a less structured opportunity for content development. In some of these fields of study certain modules, like psychology in human resources and biokinetics in sports science, are compulsory for students to register with professional bodies. In these cases, universities have less flexibility in content development as professional bodies influence and prescribe content levels and alignment. All management teams concurred that, regardless of the influences of professional bodies, all the degree programmes did signal the content their various business units required in the workplace. Managers, however, had strong opinions about the way content was taught. Comments included:

- 'Soft skills, such as communication skills, should be taught in line with current workplace needs and tools especially incorporating critical and analytical writing and e-communication tools like Skype and other methods'.
- 'Appropriate business verbal and writing skills are required and not long drawn out essays that say nothing. When writing, there is a need to be specific because we do not have the time to search for the essence of what is being said'.
- 'Include soft skills learning such as emotional intelligence; work ethic; effective communication in its various forms of manual and electronic media'.

Managers confirmed that their graduate recruitment processes were influenced by workplace experiences with graduates, the signals of degree programme content and, particularly, the learning outcomes of graduate qualifications. The qualifications possessed by graduates inform the job descriptions and vacancies employers are filling and relevant content alignment is an important requirement (Franco et al., 2019). Of particular interest to the employer are the outcomes and levels of learning graduates achieve: these are seen as indicative of the quality of the production of qualifications. Vollgraaff (2015) and the NACE (2017) argue that adequate outcomes and levels of learning are not being achieved by universities' degree programmes.

Managers were also concerned that graduates did not have an understanding of or regard for workplace communication turnaround times and the relevance of the organisational structure for the completion of operational tasks. They thought that, while a study programme might include reference to organisational structures and organograms, their importance was not sufficiently accentuated. Dominant views included the following:

- 'Improve graduate knowledge and understanding of organisational structures for relevance and

adherence to reporting lines within the workplace context’.

- ‘Graduates must be able to apply theory in practice to achieve workplace objectives timeously, there can be some trade-offs but workplaces require outputs in specified turnaround times’.
- ‘The various methods of communication serve a purpose in the expedience and urgency of workplace operations’.

Employers’ reliance on the learning outcomes and levels of learning afforded by degree programmes constitutes, according to signalling theory, the investment risk taken in graduate recruitment. Spence (1973) argues that employers do not have an opportunity to observe the applicant’s capability of applying skills and knowledge during the recruitment process. This study finds that degree programme content is not adequately taught by universities for graduates to transition effectively into the workplace, thereby making the signals sent by university degree programme descriptions questionable (Kalufya and Mwakajinga, 2018; Vollgraaff, 2015).

Skills and knowledge production by universities

The management teams acknowledged that universities could not develop the skills and knowledge needed by the labour market to the full extent required. They did, however, concur that graduates could be taught in a more holistic manner for workplace readiness. A common of all the management participants was that graduates struggled to convert theory into practice. This lack of practical application ability resulted in a mismatch between graduates’ and employers’ workplace expectations (Franco et al., 2019). Some of the specific concerns of managers in relation to graduates’ lack of ability to transfer theory to practice were:

- ‘Graduates need better written and verbal skills to address real world issues’.
- ‘Preparation of graduates should be improved for appropriate communication responses to situations: the number of words is less important than the relevance of the words’.
- ‘Graduates’ critical and analytical abilities are not adequate – for example, in the interpretation of instructions’.
- ‘Degree programmes need to avoid the use of outdated textbooks or cases, and to make theory relatable to real labour market and workplace problems’.

According to the managers, the above issues affected productivity and graduate motivation, and personal workplace relationships amongst graduate employees, as well as manager–employee relationships. Teamwork, as well as individual contributions, were deemed to be important

motivators. A lack of motivation leads to strained relationships that impact productivity negatively. Managers expressed frustration with the graduates’ lack of commitment to their own and their team’s development. Among the management experiences and concerns were:

- The work ethic of graduates needed improvement to change their attitudes and behaviour in relation to tasks and instructions from managers or others in the workplace.
- Graduates should have an ongoing willingness to learn – companies must be flexible with regard to their operational environments, internal and external.
- There was a need to encourage adherence to turnaround times for task completion – there are seldom second and third chances in workplaces.

The challenges experienced in South Africa in relation to graduates’ readiness for the workplace are, as indicated by the literature reviewed for this study, also prevalent in other countries. Kalufya and Mwakajinga (2018), for example, argue that there is a significant difference in the prioritisation of employability skills between employers’ expectations and universities’ preparation of final-year students in Tanzania. The authors claim that self-awareness, the application of knowledge and teamwork were the top three skills in employers’ ranking of graduate employability shortcomings. These were also among the skills identified by the management participants as lacking in South African graduates.

Universities, it has been argued, need to develop the graduate’s ability to adapt to the world of work through greater self-awareness in the context of the operational requirements of the workplace (Hansen, 2017). Some managers thought that the *status* of having a degree somehow gave graduates the impression that they did not have much more to learn. This point is echoed by Spence (1973), who argues that degrees are perceived to determine status, and therefore a demand for higher wages. The following issues were highlighted by the managers in this study:

- ‘There is a need to develop awareness of the risks of not following or disobeying particular instructions and workplace processes’.
- ‘Workplaces do not have memoranda or model answers against which any problem may be compared – graduates must be encouraged to have their own ideas in problem-solving’.
- ‘Having a degree without industry experience does not give a graduate the right to expect or demand a high salary’.
- ‘The employer has to invest another 12–24 months in retraining graduates for the workplace before they can make a meaningful contribution’.

The managers acknowledged that theory was an important factor but stressed that universities should teach the conversion of theory into practice and develop that way of thinking and learning progressively during the study years.

Improvement of skills and knowledge development by universities

It is important to note that managers at all levels accepted that the worlds of academia and industry differed their mode of operation. As a stakeholder in university graduate outputs, however, they believed that, for South Africa's employers and economy to prosper, stakeholders should be afforded input into skills and knowledge development in a participatory manner. Suggestions for collaboration included:

- 'Universities should engage with industry specialists/practitioners to maintain a current awareness of workplace requirements'.
- 'Encourage collaboration between industry, employer representatives and educators to create awareness of classroom teaching and learning challenges in making learning content relevant to employer needs'.
- 'Recruit suitably qualified industry representatives to teach part of the curriculum, or encourage lecturers to gain industry experience in their field of teaching'.
- 'The autonomy of the university in the learning process might be a concern in partnering with industry'.
- 'Encourage mentoring of students by industry representatives during their study years'.

The management teams also offered suggestions regarding how universities could assist graduates to transition to the workplace and so reduce the retraining time currently required. Dominant themes in the context of converting theory into practice as suggested by the participants were:

- 'Review and adjust curricula based on changing times and labour market requirements'.
- 'Universities should offer degree programmes for 1 or 2 years: employers have to invest 12–24 months to prepare graduates for the workplace despite programmes with a duration of 3 to 4 years'.
- 'Move away from outdated theoretical modes of learning and teaching practices and use available technological advances in line with the Fourth Industrial Revolution: Google is one such tool and is used on many platforms and has many variations and dimensions to assist with the application of technology in teaching and learning practices'.

- 'Relate learning and teaching to broader societal knowledge requirements'.
- 'Incorporate real-world issues into learning and teaching and avoid textbooks that discourage adaptability and flexibility in the face of change'.

The participants thought that university lecturers should have workplace experience in their particular fields or, at minimum, should make an effort to involve themselves in workplaces periodically or include industry experts and/or practitioners in their processes of teaching and learning. They recommended on-the-job training with the help of industry coaches and mentors to enhance the production of skills and knowledge by universities.

The managers stressed that lecturers' knowledge of industry was an important influence on graduate attitudes. They suggested that lecturers should have continuous professional development as a personal drive so that they could maintain a current and relevant awareness of the requirements of workplaces for which their graduates are destined. The following recommendations were offered for universities to develop graduates more holistically:

- 'Develop learners' attitude from entitlement to continuous learning practices'
- 'Use Fourth Industrial Revolution technology and tools that are already employed in industry as far as possible'.
- 'Encourage critical and analytical ability to be responsive to workplace turnaround times and reporting structures required to make workplaces operationally functional'.
- 'Industry does not operate on stagnant theories and knowledge: it is constantly changing and needs employees who know how to evolve'.

Consideration of the experiences and perceptions expressed by the management teams may result in the more holistic development of students who then, as graduates, will be better equipped and prepared for the workplace.

Conclusions and recommendations

The employer's representatives respected the fact that companies and universities operate in different environments. However, as stakeholders in higher education, employers rely on the production of appropriately skilled graduates from universities and should therefore contribute more meaningfully to the expected outputs of degree programmes. From the research reported in this paper, it is evident that managers are willing to contribute to and collaborate with universities in order to enhance the processes of teaching and learning. The participants accepted the possibility of power-play in such collaboration that might cause challenges, but were convinced that students would benefit from greater cooperation. Franco et al. (2019) argue

that students are eager to work in a practical environment and want to acquire new knowledge. For this reason, the implementation in South African degree programmes of the use of industry mentors and coaches for graduate development is offered as a recommendation.

The formulation of Career Advisory Services for the creation of short-term employability programmes at universities as suggested by Kalufya and Mwakajinga (2018), could, with the collaboration of government and industry, make a useful contribution. Stakeholders might contemplate the development of a database of industry mentors and coaches, initially for particular degree programmes: this could include retired industry experts, thereby avoiding productivity challenges for employers.

The continuing challenges experienced in relation to graduates' skills and knowledge result in efficiency obstacles for business units, whose productivity levels and targets are compromised. Instead of focusing on their organisational operations and outputs, managers have to retrain graduates, investing money and time that could be better spent elsewhere: 1 to 2 years of retraining involves the use of costly external service providers and/or existing employees. Sometimes, there is resistance among employees to involvement in on-the-job training for graduate recruits because some have years of work experience but no degree, and may have to report to these same graduates in the future. This dilemma may lead to a debate on the relevance of a degree to job performance.

Some managers were of the opinion that degrees should be offered by universities for 1 or 2 years only. Some also suggested that the government should subsidise the employer or the industry instead of universities for further graduate training with greater relevance to the economy. Government skills development and related policies are embedded in the organisational staffing policies and practices that inform the graduate recruitment process: many job specifications require not only experience but also a university degree. These specifications are aligned with what graduates with that level of qualification should have learned, as signalled by the NQF and universities' descriptions of degree programmes. As a result, it is difficult for employers to avoid the employment of graduates, even if they question the quality of graduate qualifications. It seems, therefore, difficult to disagree with the contention that the processes of teaching and learning should include employer and industry representatives.

The autonomy of universities might be questioned in the context of partnerships between universities and industry (Franco et al., 2019). If government is committed to investment in university education for the good of the economy, the sovereignty of universities should not take preference over the appropriate development of students for industry. Franco et al. (2019) argue that such partnerships could include student internships as part of the curriculum, leading to a mutually beneficial exchange of knowledge and

innovation. Universities are encouraged to incorporate the requirements of the Fourth Industrial Revolution into their teaching and learning practices to improve their capacity to meet labour market needs (Schwab, 2015). Nonetheless, most universities continue to lack the ability to meet labour market requirements (Hansen, 2017, Vollgraaff, 2015).

The literature reviewed in this study, together with the employer perspectives and experiences reported, indicate that fundamental aspects of teaching and learning in South Africa's universities are in need of adjustment. The fact that employers are willing to participate in universities' teaching and learning processes offers an opportunity to enhance the global competitiveness of the South African economy. Ultimately, this will reduce the expensive practice of importing labour at a variety of skills levels.

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